Chronic ankle instability (CAI) characterization with analysis of various balance tasks

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Keywords: Dynamic balance; Static balance; Star Excursion Balance Test; Centre of pressure

Background.– Chronic ankle instability (CAI), characterized by recurrent episodes of lateral instability [3], is a complication of lateral ankle sprain which is the most common injury in sport activities [1]. Static balance can be evaluated in bipodal and unipodal conditions, and dynamic balance with Star Excursion Balance Test (SEBT) [2].

Objective.– The aim of this study is to note if static and/or dynamic balance can characterize CAI.

Methods.– Sixteen healthy subjects (CTRL) and 20 subjects with CAI (CAI) realize unipodal and bipodal balance tests, with eyes opened (EO) and closed (EC).

Results.–In static conditions, no difference between CAI and CTRL is shown. During bipodal balance tests, significant increases ($P < 0.05$) are observed for centre of pressure displacement and velocity for CAI between EO and EC conditions. Reached distances at SEBT are significantly shorter ($P < 0.05$) for CAI people.

Discussion.– Characterization by static balance seems difficult, contrary to what has previously been found by other authors [4]. Differences between EO and EC conditions in bipodal balance tests suggest proprioceptive alteration [3]. Dynamic balance seems to be relevant to characterize CAI through SEBT [4].

References

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Isometric eversion and inversion testing after acute ankle sprains

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Keywords: Ankle sprain; Isometric testing; Rehabilitation monitoring

Background.– Ankle sprain is one of the most common injuries in sports. Most of the methods used to monitor ankle condition after acute ankle sprains do not provide knowledge about the functional state of the ankle.

Objectives.– We suggest monitoring early eversion and inversion changes after acute ankle sprains.

Methods.– Eighty athletes with acute grade II ankle sprain. All subjects were randomized into isometric testing group (40 subjects), and control group (40 subjects). Both groups underwent the same rehabilitation programme. We measured isometric peak torque and peak torque differences between the healthy and injured legs in eversion and inversion movements of the ankle. The outcome measures were pain on activity, swelling, Lower Extremity Functional Scale score, isometric eversion and inversion strength, Square hop test, and figure of Eight hop test.

Results.– There were no significant differences between parameters measured in both groups. Statistical analysis indicated significantly lower eversion and inversion strength of the injured limb, significant eversion and inversion deficit changes during the whole study. Eversion and inversion deficit correlated with Lower Extremity Functional Scale score. sion changes and helps monitoring rehabilitation after acute lateral ankle sprains.

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Injury and illness risks during outdoor European athletics championships: Analysis of Helsinki 2012 championships

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Objectives.– To analyse incidence and characteristics of newly incurred injuries and illnesses during major athletics championships, in order to discuss injury and illness risk factors.

Methods.– Newly occurred injuries and illnesses were prospectively recorded among the 1342 registered athletes by the physicians and physiotherapists from the national team and local organising committee during the 2012 European athletics championships in Helsinki, Finland.

Results.– Among the athletes, 92.7% were covered, with report forms response rate of 90.7%. Overall, 132 injuries were reported (97.6 injuries per 1000 registered athletes), and 61 (47%) resulted in time-loss from sport. The main injury diagnoses were hamstring strain, ankle sprain, lower leg strain, and trunk muscle cramps. Overuse (38%) was the predominant cause, but non-contact trauma represents 25% of injury causes. Injury risk was higher in male and increased with age. Injury risk during finals was significantly higher than during qualifying rounds. The highest incidences of injuries were found in combined events and middle- and long-distance events. Twenty-seven illnesses were reported, with most of upper respiratory tract infections and gastro-enteritis/diarrhoea. Illness risk factors remains unclear.

Conclusions.– During elite athletics championships, the gender, age, finals and some disciplines seem to be injury risk factors. Illness risk factors remains unclear.

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Role of rehabilitation physician and physiotherapist in the classification in disabled sports, an example: Paracycling

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Keywords: Disabled sports; Classification; Doctor; Physiotherapist

The rehabilitation physician and the physiotherapist can be a doctor or a physiotherapist expert in disability assessment to classify an athlete who wishes to practice disabled sports competitions. Depending on the sport, the classification is more or less complex. It depends on the accessibility of sport at various disabilities and the number of categories proposed by the discipline.

In paracycling, there are different categories with a point system scale according the type of disability (amputation, neurological, orthopedic) and clinical evaluation. The classification is done with the medical record and is multidisciplinary. The physiotherapist is involved in clinical evaluation by muscle and joint testings. A specialized technician is involved in the evaluation on bike, using a battery of tests to determine if the assessment by the physiotherapist and the doctor correlates with the impact of disability on the bike. The stakes of this classification are very important at a high level because according to the category, an athlete can win or not a medal in Paralympics games, in national